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Agriculture.

Back to the land? : Editorial. Progressive Farmer. V.48, No.1 January 1933. p.3. Wholesale, unguided back-to-the-land movement is poorest possible solution of unemployment problem. Vast majority of idle workers must find employment in industry if they are ever employed again.

Challenge to agricultural engineers as seen by a farm management man. By V. B. Hart. Agricultural Engineering. V.14, No.1, January 1933. p.3-6. Change in farmer's attitude in respect to wanting information is that he wants more, sooner, and especially anxious for information and advice that will help him get enough cash to cover absolutely necessary business and personal expenses.

Economic efficiency of the farm layout in Maryland. By A. B. Hamilton and S. H. DeVault. 1932. p.213-260. Maryland Agricultural Experiment Station. Bulletin No. 338.

Air conditioning.

Air conditioning. By Willis H. Carrier. Manufacturers Record. V. 101, No. 35. December 1932. p.26-27. Adds to human comfort, increases manufacturing efficiency, creates employment, and affords new outlet for electric power.

Air conditioning for comfort and economy. By M. G. Harbula. Power Plant Engineering. v.37, no.2. February 1933. p. 81-82. First and operating costs determine practicability of conditioning system.

Air conditioning ideal American home. Air Conditioning. v. 1, no. 2. January 1933. p. 10-13. Gas-fired automatically controlled, trunk-duct air-conditioning system installed in suburban home in St. Louis area. Data sheet for air-conditioning system developed by manufacturer of furnace, representing presentation of technical data in practical useful form for field use.

Air conditioning with ice. By A. J. Authenrieth. Ice and Refrigeration. v. 83, no. 5. November 1932. p. 200-202. Standard methods of cooling and dehydrating air. Cost of ice for comfort cooling. Types of ice melting tanks used. Advantages of using ice for comfort cooling.

Air conditioning. (Cont'd.)

Comfort cooling with ice during 1932. By George B. Bright. Refrigeration. v. 53, no.1. January 1933. p. 22-26.

Comfort temperatures in air conditioning. By Malcolm Tomlinson. Domestic Engineering. v. 141, no. 1. January 1933. p. 83-85.

Frigidaire enters R.R. air conditioning field. Refrigerating World. v. 68, no. 1. January 1933. p. 31-32. New equipment is compactly built, consisting of light weight units that may be immediately installed on present rolling stock without alteration of car structures.

History and development of the air conditioning industry. By Willis H. Carrier. Refrigeration. v. 53-no. 1. January 1933. p. 18-21. Study of field started in 1902. First air washer in use in 1905. If acceleration in application of air conditioning systems continues for next twenty years as it has in past, there will be in this country annual business of over \$250,000,000 in producing artificial climate. Such values may be interpreted in terms of demand for power, for materials and machines, for labor of many men in many trades.

Humidity control devices. By John A. Masek. Pt. I Aero-logist v. 9, no. 1. January 1933. p. 9-10. Methods of controlling humidity. Various instruments used in controlling humidity.

Humidity control devices. By John A. Masek. Pt. II Aero-logist v. 9, no. 2. February 1933. p. 11-13. Methods of controlling humidity. Various instruments used in controlling humidity.

Testing methods for air filters. By W. F. Voelpel. Aero-logist. v. 9, no. 1. January 1933. p. 5-8, 27. Resistance to air flow; Cleaning efficiency; Pollen tests; Bacteria tests.

Building construction.

Brick veneer held on wall by steel strips. Popular Mechanics. v. 58, no. 4. October 1932. p. 615. Inch-thick bricks are clipped onto strips and mortar applied, giving appearance of solid brick construction. Steel strips nailed to old wood walls.

Comparative details--second story overhangs. Pencil Points. v. 14, no. 1. January 1933. p. 37-42.

Development and use of roofing nails. By A. J. Deniston, Jr. Agricultural Engineering. v. 14, no. 1. January 1933. p. 9-10.

Leading double hung sash designs as submitted in the Samson Cordage Works Architects' contest. Boston, Massachusetts, Samson Cordage Works, 1932. 28 p.

Planning of construction on basis of research. By Henry D. Hubbard. Commercial Standards Monthly. v. 9, no. 7. January 1933. p. 147-148. Research activities of Bureau of Standards for modernizing construction standards for use of industry.

Building construction. (Cont'd.)

Wind-stress analysis and moment distribution. By Robins Fleming. Engineering News Record. v. 110, no. 6. February 9, 1933. p. 194-195. Cross method of distributing fixed-end moments in analyzing indeterminate frames applied to wind problems in tall-building design.

Dairy equipment.

Use of water bowls in the dairy barn. By C. Y. Cannon, E. N. Hansen, and James R. O'Neal. Jersey Bulletin. v. 52, no. 1. January 4, 1933. p. 7-8, 20-21. Water consumption; ratio of water consumption to milk production.

Dams.

Arch dam built in isolated blocks to reduce shrinkage effects. By F. A. Noetzli. Engineering News Record. v. 110, no. 3. January 19, 1933. p. 78-79. Efforts made to reduce shrinkage cracks to minimum by permitting chemical heat to dissipate before filling slots between columnar blocks. Forked abutments result in saving of concrete.

Building Hamilton dam on Colorado River in Texas. Engineering News Record. v. 110, no. 2. January 12, 1933. p. 59-62. Long concrete dam combining multiple-arch and gravity types to develop 126-foot head for three Hydroelectric units of 10,000 kw.

Construction of the Cobble mountain dam of the Springfield water works. By Harry H. Hatch. Journal of the New England Water Works Association. v. 46, no. 4. December 1932. p. 327-344.

Percolation slope in dams measured by new device. By L. L. Meyer. Engineering News Record. v. 110, no. 4. January 26, 1933. p. 109-110. Method uses system of lines of tubing from well points located in structure to recording box on dam crest where interior water levels are determined by simple manometer readings.

Drainage.

Effective compromise in mold draining: Editorial. Implement and Machinery Review. v. 58, no. 692. December 1, 1932. p. 627. Adapted to very varying conditions.

Electric service, rural.

Cost analysis of experimental underground rural line. Electrical World. v. 101, no. 2. January 14, 1933. p. 71. During fall of 1931, Empire State Gas and Electric Association, as experimental installation, constructed 2.35 miles of underground rural

Electric service, rural. (Cont'd.)

line at cost, excluding transformers, services and meters, of \$1,610.54 per mile and total cost, including transformers, services and meters, \$1,904.19 per mile. This was single-phase, 4000 volt line using no. 6 concentric cable. Trenching was done by local labor at 4 cents per foot.

Electricity in the home.

More diversity in home uses than code recognizes. By W. F. Walsh. Electrical World. v. 101, no. 4. January 28, 1933. p. 124-127. Code requirements for calculating demands of single family residences; table showing characteristics of residential installation having electric ranges and water heaters.

7 tons of candles a year to light a small home. Electrical World. v. 101, no. 1. January 7, 1933. p. 2. Based upon energy rate of 7 cents kilowatt-hour and with candles at 10 cents per pound, weekly bill during six winter months would be \$22 and during summer months \$8.40.

Electricity on the farm.

Application of ultra-violet radiation in the poultry industry. By Kirk M. Reid. Agricultural Engineering. v. 14, no. 1. January 1933. p. 13-14. 1. Increases number of eggs, 2. Increases size and weight of eggs, 3. Increases Vitamin D content of eggs, 4. Decreases breakage from thin shells, 5. Increases percentage of fertile eggs, 6. Eliminates loss of chicks from rickets, 7. Increases rate of growth of small chicks, 8. Produces larger and stronger pullets, 9. Eliminates necessity and inconvenience of feeding cod-liver oil.

Electric brooding. Committee on the Relation of Electricity to Agriculture, 1933. 6p.

Electric incubation. Committee on the Relation of Electricity to Agriculture, 1933. 4p.

Electric tillage. Implement and Machinery Review. v. 58, no. 692. December 1, 1932. p. 631-633. Tests of new tractor that makes rural electrification more effective.

Electricity on the poultry farm. By L. J. Smith and Harry L. Garver. 1932. 71p. Washington Agricultural Experiment Station. Popular Bulletin No. 148.

Electricity on the farm.

(Cont'd.)

Electro-farming. Mechanical Engineering. v. 54, no. 12. December 1932. p. 873. Matter discussed from two angles: 1. so-called bread-and-butter electric equipment which farmer will install when he first uses electricity, 2. larger equipment, such as 150 h.p. hay drying and disintegrating plants, 250 h.p. plow, 30 h.p. rain cannons being used on continent, electric soil heating.

Farm -- a \$4,575,000,000 market. Electrical World. v. 101. no. 1. January 7, 1933. p. 38.

Progress report of investigations of the various uses of electricity on the farms of Washington for the year 1932. Washington Committee on the Relation of Electricity to Agriculture, 1933. 29p. mimeographed.

Erosion Control.

Causes and prevention of bed erosion and protection of structures controlling rivers and canals. By A. D. Butcher and J. D. Atkinson. Engineering. v. 134, no. 3492. December 16, 1932. p. 709. Strongly advocates use of models for every major structure during process of design, so that effect of structure, in combination with channel it serves, on current distribution and scouring action may be determined, and protective measures adapted to special circumstances of case incorporated before design is complete.

Erosion surfaces in south-central Pennsylvania. By William O. Hickok. American Journal of Science. v. 25, no. 146. February 1933. p. 101-122.

Estimated soil losses. By A. K. Short. Farm and Ranch. v. 51, no. 24. December 15, 1932. p. 7. During heavy rains of past season in Texas, losses on untterraced areas under observation are estimated to have been from fifty to 100 times as much as losses on areas protected by terraces.

Inch of run-off costs \$2.50. Farm and Ranch. v. 51, no. 22. November 15, 1932. p. 15. Results of experiments conducted at cooperative experiment station near Temple, Texas.

Prevention of coast erosion. By J. Bryce. Surveyor. v. 82, no. 2132. December 2, 1932. p. 513.

This waste demon must be stopped. By Arthur M. Hyde. Idaho Farmer. v. 50, no. 19. November 10, 1932. p. 3. Alarming destruction of top soil by erosion will lead to national disaster if unchecked.

Tons of soil go into sea. By W. A. Rockie. Washington Farmer. v. 68, no. 3. January 19, 1933. p. 7. Palouse River carries off amazing total - about 30 tons per acre.

Erosion Control. (Cont'd.)

Using soil-binding plants to reclaim gullies in the South. By H. G. Meginnis. 1933. 18p. U. S. Department of Agriculture. Farmers' Bulletin No. 1697.

Explosives.

Safety for the occasional user of explosives. By Arthur LaMotte. Better Farm Equipment and Methods. v. 5, no. 5. January 1933. p. 6-7, 17-18.

Farm buildings.

Shelter house can be made cheaply. By L. J. Smith. Oregon Farmer. v. 56, no. 1. January 5, 1933. p. 3. Suggested plan, employing simple but sturdy construction, will provide good low-cost out-buildings.

Wind-resistant construction for farm buildings. By M. C. Betts and Wallace Ashby. 1932. 6p. U. S. Department of Agriculture Leaflet No. 87.

Farm machinery and equipment.

California implement problems and developments on the horizon. By H. B. Walker. Implement Record. v. 30, no. 2. February 1933. p. 16-17, 22.

Development of the hay and straw combine. By L. R. Tallman. Agricultural Engineering. v. 14, no. 1. January 1933. p. 11-12. Provides only practical means of salvaging straw left in field by grain combine at negligible cost, and at same time leaves it in bale ready for market or for most economical storage and convenience in handling.

Economic aspects of farm mechanization. By Arnold P. Yerkes. Farm Implement News. v. 54, no. 3. February 2, 1933. p. 20-21. Discussion of effect of labor-saving farm machines on farmers and on society in general.

Les façons aratoires profondes et les sous-solages charrue sous soleuse, système Fondeur. By G. Coupan. Genie Civil. v. 102, no. 3. January 21, 1933. p. 64-67. Features of Fondeur tractor driven subsoiling plow.

Farm machines for 1933. By J. Brownlee Davidson. Successful Farming. v. 31, no. 2. February 1933. p. 15, 42-43.

Farm machinery and equipment. (Cont'd.)

Farmer reports on pick-up hay baling. By Curtis P. Upton. Implement Record. v. 30, no. 1. January 1933. p. 12-13. Based on field practice on 400 acres of alfalfa, Sudan grass, oats and vetch.

Harvester continues crop price terms. Farm Implement News. v. 54, no. 3. February 2, 1933. p. 10. Enlarged scope to take in all farm machines in its line. It will not apply to repairs nor to motor trucks.

Hay racks. By L. M. Roehl. 1932. 16p. New York State College of Agriculture. Cornell extension bulletin no. 244.

Implements and machinery at the Smithfield show. Implement and Machinery Review. v. 58, no. 692. December 1, 1932. p. 637-655.

Increased production in agriculture: Papers read at the meeting of the British Association for the advancement of science at York, 1932. 35p. Institute for Research in Agricultural Engineering. University of Oxford. Some basic problems of mechanised farming, by H. J. Denham. p. 3-12. Role of the tractor in reducing costs of production, by S. J. Wright p. 13-21. Some problems of extensive farming with mechanised equipment, by A. J. Hosier. p. 22-26. Some problems of intensive farming with mechanised equipment, by D. R. Bomford. p. 27-32.

John Deere Plow Company announces crop offer. Hardware and Implement Journal. v. 38, no. 2. February 1933. p. 11. Substantially same as that of 1932. Applies on all implements.

Labor efficiency in planting and harvesting on eastern Connecticut dairy farms. By Donald O. Hammerberg. 1931. 54 p. Connecticut Storrs Agricultural Experiment Station. Bulletin No. 172.

Plows and plowing. By E. J. Kinney. Southern Agriculturist. v. 62, no. 12. December 1932. p. 7, 16. Sizes of plows required; choose plow to fit your land; adjusting plow.

Special mower attachments for vetch harvesting. By Enoch Torpen. Implement Record v. 30, no. 1. January 1933. p. 16-17. Stock mower equipped with serrated blades for cutter bar, stub or pea guards, five lifting guards, special divider, windrow attachment and tongue truck. Divider extends forward of cutter bar and extends high enough to catch vetch and draw it down where it is cut - establishing distinct separation between cut and uncut vetch.

"Stitch in time saves nine." By Frank A. Briggs. Farm and Ranch. v. 51, no. 24. December 15, 1932. p. 2. Discussion of care of farm machinery.

Farm machinery and equipment. (Cont'd.)

Studying machine application: Editorial. Farm Implement News. v. 54, no. 3. February 2, 1933. p. 12. Newer viewpoint is how certain coordinated types of farm power and equipment fit certain characteristic farm set-ups. Studies should be accurate as of year issued, and not register situation that is already history.

Vorbedingungen des Maschineneinsatzes auf Amerikanischen und Deutschen betrieben. (Requirements for the introduction of machines in American and German agricultural operations.) By C. H. Dencker and N. L. Wallem. Berlin, Paul Parey, 1932. 91 p. Report of six months trip through U.S. to study American methods, machinery and agricultural technique. Occasional comparisons are made between German and American conditions as to climate, crops, methods of growing and harvesting and machinery used.

What is new in agricultural machinery. By E. T. Leavitt. Hardware and Implement Journal. v. 38, no. 2. February 1933. p. 10-11.

What is new in farm machinery. By E. T. Leavitt. Better Farm Equipment and Methods. v. 5, no. 6. February 1933. p. 4-5. Constant development aimed to lower production costs.

Fences.

Some notes on fences. By Arthur Bates Lincoln. Pencil Points. v. 13, no. 11. November 1932. p. 756.

Fertilizer spreaders.

Application of fertilizers. By H. F. Kenyon. California Cultivator. v. 79, no. 27. December 31, 1932. p. 419, 431.

High cost of no spreader. Farm Implement News. v. 54, no. 3. February 2, 1933. p. 25. Even with farm products at present levels, manure spreader constitutes sound investment. During life of machine, it will return more profit than its cost, entirely ignoring its value as labor-saver.

How to apply fertilizer. Fertilizer Review. v. 7, no. 4. October, November, December 1932. p. 7, 16. Recommendations adopted at meeting of Joint Committee on Fertilizer Application.

Machine placement of fertilizer applied to snap beans in Florida, 1931. By G. A. Cumings, A. I. Sharp and others. 1933. 23 p. mimeographed. U. S. Bureau of Agricultural Engineering.

Proceedings of the Eighth Annual Meeting of the Joint Committee on Fertilizer Application. 1932. 85p. multigraphed.

Fertilizers.

Home-mixing of fertilizer. By R. W. Hamilton. 1933. 16p.
South Carolina Clemson Agricultural College. Extension Service.
Circular No. 126.

Fire protection.

Fires on farms. By Harry E. Roethe. 1932. 4p. U. S. Department of Agriculture. Leaflet No. 44.

Floods and flood control.

Models help to harness "ole man river". Popular Mechanics. v. 58, no. 4. October 1932. p. 596. Built to exact scale in every detail. Built in laboratory of U. S. Corps of Engineers at Vicksburg, Mississippi.

Report on control of floods and drainage of wet lands in the Valley of the Passaic River and its tributaries. By Cornelius C. Vermeule. 1928. 40p. New Jersey. Department of Conservation and Development.

Stream control by barriers. Agricultural Engineering. v. 14, no. 1 January 1933. p. 8. Constructed at favorable location so as to spread water and cause material to be deposited. As basin becomes filled, stream is so directed that debris deposited builds embankments higher. Embankments and spillway made of materials at hand. Installed on 18 streams in Utah, and recent studies indicate that supply of irrigation water from those streams has been doubled and expense of cleaning canals and ditches reduced.

Floors.

Floors and flooring material. By David B. Emerson. Pencil Points. v. 14, no. 1. January 1933. p. 55-58. Wood floors; Cork tile floors; Rubber tile floors; Mastic floors.

Old floors to new. By Berton Elliot. Popular Mechanics. v. 58, no. 4. October 1932. p. 674-676, 134A.

Flow of water and gases.

Methods of reducing the flow of artesian wells. By Howard E. Simpson. Rev. ed. 1932. 7p. North Dakota Geological Survey Bulletin No. 3.

Forage drying.

Digestibility of artificially dried grass. By J. A. Newlander and C. H. Jones. 1932. 20p. Vermont. Agricultural Experiment Station Bulletin No. 348.

Frost Protection.

Number and types of orchard heaters in California citrus districts.
By Floyd D. Young. California Citrograph. v. 17, no. 12.
October 1932. p. 454, 472.

Orchards warmed with gas to overcome smudge. Popular Mechanics.
v. 58, no. 4. October 1932. p. 527. Butane gas used. Gallon
of fuel is said to provide forty-eight cubic feet of gas. If tests
are successful, gas will be delivered to orchards by underground
pipe lines.

Fuels.

Motor fuel quality: a complex problem. By George Granger Brown.
National Petroleum News. v. 24, no. 50. December 14, 1932.
p. 43-47, 51. Gives essentials of what is known about motor fuel
quality.

Heating.

Air at 63 and walls at 80 give comfort in this panel heating job.
By L. W. Schad. Domestic Engineering. v. 141, no. 1. January
1933. p. 45-47, 108.

Correcting radiator sizes for off-standard conditions. Heating and
Ventilating. v. 30, no. 1. January 1933. p. 37-39.

Greenhouse heating. By Arthur H. Senner. 1932. 40p. U. S.
Department of Agriculture. Circular No. 254.

Heat losses. By P. J. Marschall. Aerologist. v. 9, no. 2.
February 1933. p. 22-26.

Hotbeds.

Electric heat for plants. Committee on the Relation of Electricity
to Agriculture, 1933. 4p.

Soil heating by electricity. By C. A. Cameron Brown. Rural
Electrification and Electro-Farming. v. 8, no. 92. January 1933.
p. 242-246. Heating cables, types and application; Hot beds - cost
of running, loading and control; Future development.

Sterilising the soil with electricity. Rural Electrification and
Electro-Farming. v. 8, no. 92. January 1933. p. 250-251.
Description of developments carried on by Puget Sound Power and Light
Company.

Surface heating in electric hotbeds saves power. By George W. Kable.
Market Growers Journal. v. 52, no. 3. February 1, 1933. p. 56.

Houses.

Build reinforced concrete houses with standard metal forms. Concrete v. 40, no. 12. December 1932. p. 7-8. Forms of full-story height permit rapid placing of concrete and bring large-scale construction methods into house building field.

Closets and storage in the home. By Deane G. Carter. Farm and Ranch. v. 51, no. 23. December 1, 1932. p. 2.

House design, construction, and equipment. 1932. 325p. President's Conference on Home Building and Home Ownership. v. 5.

Housing objectives and programs, 1932. 345 p. President's Conference on Home Building and Home Ownership. v. 11.

Mass-production methods build frameless steel house. Construction Methods. v. 14, no. 12. December 1932. p. 30-33. Demonstration aimed to perfect method of construction which could be used to reproduce any type of architecture for individual home.

Rapid concrete house construction. Concrete and Construction Engineering. v. 27, no. 11. November 1932. p. 645-649. Method of construction of concrete walls of small bungalows by sliding form-work operated and kept in position by patented devices.

Recommended minimum requirements for small dwelling construction. 1932 107 p. U. S. Bureau of Standards. Building and Housing Publication No. 18. Report of the Department of Commerce. Building Code Committee.

This house is not costly - affords many conveniences and comforts. By L. J. Smith. Idaho Farmer. v. 50, no. 23. p.5.

Welded house introduces new type of construction. Domestic Engineering. v. 140, no. 7. December 1932. p. 37-39. Demonstrates adaptability of sheet metal to construction of low cost homes. Can be used to reproduce almost any type of architecture. Exterior heavily insulated against heat or cold with outside finish of porcelain enameled shingles. Heating and plumbing systems are of conventional types.

Insulation.

Johns-Manville develops new J-M zerolite refrigerator insulation. Ice and Refrigeration, v. 83, no. 4. October 1932. p.181. Combines lowest possible conductivity and reasonably low weight, complete sanitation and waterproofness, combined with ability to maintain its original form indefinitely under service conditions.

Irrigation:

- Canals of Idaho carry living water. By Lamont Johnson. Idaho Farmer. v.50, no.21. p.3,14. Cost has been counted in years of experimentation and labor, millions of dollars in money, and changing of many careers.
- Improved method of irrigation canal maintenance. By C.J.Gronland. Agricultural Engineering. v.14, no.1. January 1933. p.7-8. More extensive use of tractor and grader equipment.
- Model law for motion of salt water through fresh. By M.P.O'Brien and J.Cherno. American Society of Civil Engineers. Proceedings. v.58, no.10. December 1932. p.1769-1788. In connection with proposed "Salt water barrier" in San Francisco Bay, action of salt water when flowing through fresh was studied by means of hydraulic models. Investigation showed that model, geometrically similar to its prototype, could not be used, but that it must be distorted so that scales for dimensions, and salinity satisfy equations in paper.
- Modesto seeks additional properties. Electrical World. v.101, no.2. January 14, 1933. p.56. Modesto Irrigation district has asked California Railroad Commission to fix compensation to be paid for electric distribution system of Sierra and San Francisco Power Company, subsidiary of Pacific Gas and Electric company, within district. According to petition, power company serves portion of area of Modesto district and is competitor of system owned by district, particularly in city of Modesto.
- Salt Lake City irrigation conference. Reclamation Era. v.24, no.1. January 1933. p.6. New organization formed to deal with federal reclamation. Known as National Reclamation Association. Officers given.
- "Slick spots". By W.T.McGeorge and J.F.Brazeale. Arizona Producer. v.11, no.20. January 1, 1933. p.4,11. Faulty irrigation causes soil conditions more easily prevented than cured. Reclamation by leaching.
- Sub-irrigation for gardens. By M.R.Bentley and J.F.Rosborough. 1933. 8p. Texas. Agricultural and Mechanical College. Extension Service. Circular no.97.
- \$10,000,000 sought from R.F.C. for irrigation projects. Engineering News Record. v.110, no.2. January 12, 1933. p.68. Twelve irrigation systems in Lower Rio Grande valley.
- Texas irrigation district goes into liquidation. Engineering News Record. v.110, no.4. January 26, 1933. p.130.

Irrigation. (Cont'd.)

W. U. A. costs drop again. All-time low record for operation and maintenance expense in irrigation department. Arizona Producer. v. 11, no. 21. January 15, 1933. p. 1, 7. Operation and maintenance costs of irrigation department, Salt River Valley Water Users' Association, have been reduced to lowest figure in history of project.

Land.

Finding the best use for land. By R. B. Toptell. Montana Farmer. v. 20, no. 4. October 15, 1932. p. 3. Impartial land classification can be used as basis for education regarding proper land utilization and process of securing more profitable use of land can be speeded up by use of such classification.

Outlook for labor and land use in agriculture. By O. E. Baker. California Cultivator. v. 79, no. 25. December 17, 1932. p. 387; v. 79, no. 27. December 31, 1932, p. 421, 430; v. 80, no. 1. January 7, 1933, p. 5, 14-15. Future domestic needs for food and fiber seem unlikely to require any material increase in farm acreage, under present acre-fields, and advances in agricultural technique, considered in connection with population prospect, suggest that crop acreage will continue to decline in less fertile, less level or less favorably located districts.

Lubrication.

Lubrication as a means of cost reduction. By Reginald Trautschold. Power Plant Engineering. v. 37, no. 2. February 1933. p. 83-84. More suitable lubricant correctly applied always means cost saving far in excess of any possible expense in connection with conducting investigations.

Miscellaneous.

Annual report of the Federal Trade Commission, June 30, 1932. 1932. 275 p.

Association of Southern Agricultural Workers. Proceedings of 33rd annual convention. 1932. 132 p. Agricultural Engineering Division, p. 67-74.

Balancing "technocracy". By I. W. W. Morrow. Electrical World. v. 101, no. 2. January 14, 1933. p. 60-62. Existing economic conditions; specific applications of economic forces; plan of decentralization and diversification; practical application under way. Granted that resistance level of depression has been reached and that we cannot use from this level until debt burden is re-adjusted to present price levels through agreements, inflation or bankruptcy, it is part of wisdom to measure economic forces that create maladjustments in labor, production and consumption and to attempt to apply principles outlined to create stability.

Miscellaneous. (Cont'd.)

Canada, 1933. Official handbook of present conditions and recent progress. 1933. 192p. Canada. Dominion Bureau of Statistics.

Factors affecting the performance of kerosene cook stoves. By Edna B. Snyder. 1932. 22p. Nebraska Agricultural Experiment Station. Research Bulletin No. 64.

Fifty-first annual report. 1931-1932. 1933. 129p. Ohio Agricultural Experiment Station Bulletin 516. Agricultural Engineering, p. 101-106.

Forty-second annual report. June 30, 1932. 1932. 84p. Washington Agricultural Experiment Station Bulletin No. 275. Division of Agricultural Engineering, p.9-11.

Forty-sixth convention of the association of land-grant colleges and universities. Experiment Station Record. v. 68, no. 1 January 1933. p. 1-4.

Forty-third annual report, June 30, 1932. 1932. 133p. Arizona Agricultural Experiment Station. Agricultural Engineering, p.64-71.

Government in business. By Howard L. Clark. Manufacturers Record. v. 101, no. 35. December 1932. p. 24, 80.

Handy board for draftsman has arm to aid work. Popular Mechanics. v. 58, no. 4. October 1932. p. 560. Equipped with all necessary instruments except pencil. Mounted on board is metal arm jointed at elbow. Attached to free end of arm is small triangle that combines ruler, straightedge, thirty-sixty degree triangle and forty-five degree triangle. Machine is calibrated to sheet of paper mounted on block so drawings may be lined up perfectly. Fits desk drawer.

Lake Zurich breakwater built on piles. By A. J. Luchinger. Engineering News Record. v. 110, no. 3. January 19, 1933. p. 80-81. Concrete box girders, submerged below wave action and carried on capped cylinder piles, form breakwater for Waldenswil Harbor on Lake Zurich, Switzerland.

Leveling in Oregon. By Howard S. Rappleye. 1932. 247 p. U. S. Coast and Geodetic Survey. Special Publication No. 177.

Maine extension service annual report, June 30, 1932. 1933. 44p. University of Maine. Extension Service. Bulletin No. 209. Agricultural Engineering, p.12-14.

Miscellaneous (Cont'd.)

Nature made a good record in last twelve months. By John C. Hoyt.
Engineering News Record. v. 110, no. 5. February 2, 1933.
p. 167. Summary of federal bureau record for 1932. Shows
generally favorable weather and climatic conditions throughout
United States.

New deal - for the farmer. By Russell Lord. Country Home. v. 57,
no. 2. February 1933. p. 12-13, 36-39, 44. Discussion of
domestic allotment plan.

New mouth wash: Editorial. Industrial and Engineering Chemistry.
v. 25, no. 2. February 1933. p. 123-124. Technocracy.
Equitable way must be found of distributing to labor greater pro-
portion of wealth and goods which technology helps to create.

Progress made on large engineering projects. Engineering News
Record. v. 110, no. 5. February 2, 1933. p. 153-162.
Land reclamation and flood control, p. 158-159.

Recent developments in applied acoustics. By Dr. Paul E. Sabine.
Journal of the Western Society of Engineers. v. 37, no. 6.
December 1932. p. 314-322.

Report of the Chief of Engineers, U. S. Army. 1932. 2v. Re-
port upon river and harbor improvement work, including flood control
operations.

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New government power plan to include Muscle Shoals. Electrical World. v. 101, no. 4. January 28, 1933. p. 116. Roosevelt declared that he would take steps to put in operation government-owned power and nitrate plants at Muscle Shoals. Norris bill provides for sale of power to municipalities, counties, states and farm organizations at rates to be fixed by Federal Power Commission if satisfactory contracts cannot be made with private companies. Nitrate plants should be run as government experimental stations for manufacture of fertilizers.

New measure of power factor accurate, simple, and sound. By Archer E. Knowlton. Electrical World. v. 101, no. 4. January 28, 1933. p. 130-132. Energy borrowed every cycle for excitation purposes should be rented along with sale of consumed energy. Metering of negative power loop readily accomplishes this purposes.

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